

# NASA TECH BRIEF

## *NASA Pasadena Office*



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### **Eigenvalue Algorithm Based on a Combined Sturm Sequence and Inverse Iteration Technique (EASI)**

#### **The problem:**

An accurate and efficient method is needed for solutions to eigenvalue problems.

#### **The solution:**

A computer program was developed for the computation of specified roots and associated vectors of the eigenvalue problem  $Aq = \lambda Bq$  with band-symmetric  $A$  and  $B$ ,  $B$  being positive definite.

#### **How it's done:**

The desired roots are first isolated by the Sturm sequence procedure. Then a special variant of the inverse iteration technique is applied for the individual determination of each root along with its vector.

#### **Notes:**

1. This program was written in FORTRAN V for the UNIVAC 1100-series computers.
2. Inquiries concerning this program should be directed to:

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Reference: NPO-13368

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